CENTER FOR INTELLIGENT COMPUTER TOOLS

CENTER

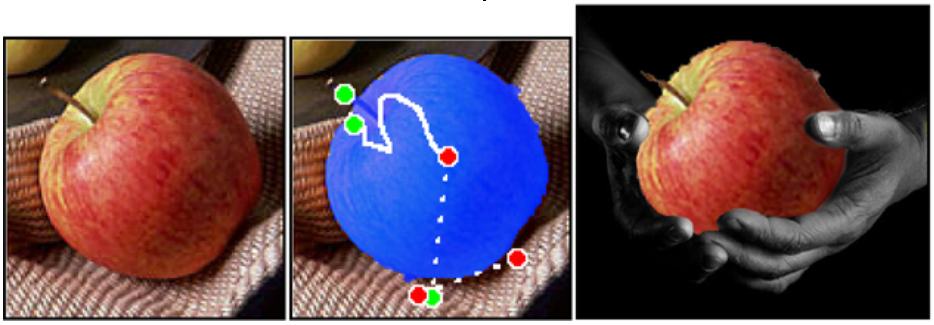
The Center for Intelligent Computer Tools was first funded in 1996 to facilitate the creation of computer tools including interactive image segmentation and composition, automated creation of digital (microfilm) libraries, and semi-automated creation of virtual environments from real world images.

TECHNOLOGY

The technology development effort is concentrated in the following areas: intelligent scissors / paint which performs image segmentation and composition; color quantization and dithering, which represents full color images with limited palette and no visual loss; resolution enhancement, making bad images good and good images better; document understanding – parsing document components and recognizing content; automated morphing between images for animation, video compression etc.; virtual environments to create realistic virtual environments from real world images and direct surface rendering.

ACCOMPLISHMENTS

Algorithms for intelligent paint segmentation and localization were refined. A prototype was developed for digital microfilm parser / browser. The intelligent scissors and color quantization software was licensed to Adobe Systems Inc. Adobe Systems has funded a significant research effort at CICT. The direct surface (Patch) rendering software was licensed to S3 Corporation. Currently, in the virtual environment development area the terrain database for the Virtual Olympics was expanded.



>Intelligent Paint starts by pressing the mouse button on one side of the object to be extracted(middle frame). The mouse is then dragged to the opposite side of the object and released. The "painted" object can then be pasted into another picture (right frame).

CONTACT

Director: William Barrett, Ph.D.
Brigham Young University, Provo, Utah
Phone 801-378-7430, Fax 801-378-7775
barrett@cs.byu.edu

Can You Imagine...

. . . careening down an Olympic bobsled run, fully aware of the twisting turns and angles of the sled, while watching the surrounding landscape rush by, all on the screen of your computer with every visual sensation artificially created in software.

THE CENTER DEVELOPS INTELLIGENT COMPUTER TOOLS FOR THE CREATION, MANIPULATION, AND PRESENTATION OF DIGITAL IMAGES.